

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
Daniel I. Kerpelman et al.	§	Group Art Unit: 2768
	§	
Serial No.: 09/470,344	§	Examiner: Morgan, Robert W.
	§	
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	§	
For: MEDICAL FACILITY	§	Atty. Docket: GEMS:0065/YOD/LIU
COMMUNICATIONS TOPOLOGY	§	15SV5373-4
	§	

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REPLY BRIEF PURSUANT TO 37 C.F.R. §§ 41.41

Appellants submit this Reply Brief pursuant to 37 C.F.R. §§ 41.41, and in response to the Examiner's Answer mailed on December 11, 2007. Appellants, however, respectfully request that the Board consider Appellants' complete arguments set forth in the previously filed Appeal Brief, in addition to the following remarks. Moreover, after reviewing the Examiner's response to the Appeal Brief, it is apparent that the Examiner has done no more than merely restate the arguments previously set forth in the Final Office Action mailed October 19, 2006. In other words, it appears that the Examiner has failed to respond to the deficiencies pointed out by Appellants in the Appeal Brief. As such, Appellants respectfully maintain that the pending claims are allowable and not rendered obvious by the cited reference, DiRienzo.

With this in mind, Appellants note that the subject of the instant appeal centers in particular on the Examiner's reliance on a single prior art reference, DiRienzo, in rejecting *all* of the pending claims as obvious under Section 103. Further, in addition to failing to provide any

additional remarks other than merely restating the arguments set forth in the Final Office Action, the Examiner also acknowledged numerous times that DiRienzo *does not expressly provide* a data communications control system (“DCCS”). *See e.g.*, Examiner’s Answer, pages 4, 5, 7, 9-11, 13, 14, 16-21, 23, 24. This particular feature is recited in *all* of the independent claims, including claims 1, 17, 32, 46, and 55 presently under appeal. Thus, the deficiency of the recited DCCS in DiRienzo is *significant* and cannot be simply glossed over by the Examiner.

As a preliminary matter, Appellants provide the following brief discussion to offer the Board a fuller understanding of the present invention in the context of the technology available *at the time* of the application was made. In particular, hospitals and medical institutions may possess a variety of diagnostic imaging (e.g., MRI, CT, ultrasound, X-ray) systems, which may be collectively referred to as a “radiology department.” *See* Application, page 1, lines 24-31. A radiology department information system (RIS) may be interconnected or networked with these various imaging systems to improve coordination of operation, as well as to facilitate review of images by radiologists and diagnosing physicians, and may be further interconnected with patient monitoring systems, hospital information systems (HIS), picture archiving and communication systems (PACS), or the like. *See id.* at page 2, lines 4-10. While some of these systems may function completely independent of other equipment or external service providers, many such systems are designed to interactively communicate information with outside components. *See id.* at page 2, lines 12-15.

At the time the present invention was made, one solution was to provide *each* imaging system a modem or communicative device for transmitting or receiving image data, service information, software updates, operational data and reports, and so forth. *See id.* at page 2, lines 15-18. Thus, the solution under conventional networking infrastructures required dedicated *separate communication lines* for *each* respective system to insure connectivity with outside components as needed. *See id.* Disadvantageously, maintenance of separate communication lines for *each* system is not only costly, but also difficult and time consuming. *See id.* at page 3, lines 10-18.

To address these drawbacks, the present invention is directed towards an *improved* data communications infrastructure. In particular, embodiments of the present invention include a DCCS, which essentially provides a *central* communication mechanism by which the various systems (e.g., HIS, RIS, PACS, diagnostic imaging devices) may communicate with one or more remote service providers (“RSP”) for issuing requests for service and receiving software updates, documentation, training materials, and so forth. *See id.* at page 4, lines 1-3. Similarly, the RSP may initiate communication with any of the diagnostic devices on the hospital network through the *centralized* DCCS in response to such requests. Thus, to be *perfectly clear*, Appellants emphasize that the recited DCCS provides a centralized communication interface for managing all outgoing and incoming network traffic. That is, transmitted outgoing data (e.g., to an RSP) and received incoming data is processed, analyzed, and/or routed (e.g., by a unique network address) to an appropriate recipient system via the DCCS. Appellants submit that the presently described innovations are improvements over the conventional techniques known and in use at the time the present application was filed. With the foregoing in mind, Appellants note that *each* of the independent claims presently pending generally recites that a DCCS is coupled to the internal network which includes a *plurality of medical diagnostic imaging modalities*. Independent claims 1, 17, and 35 further recite that the DCCS is configured to communicate addressed data to corresponding clients *on the internal network*. Appellants maintain that these features are *not* disclosed by DiRienzo.

In contrast, DiRienzo merely describes a medical image server for facilitating the practice of remote diagnosis by non-local physicians. *See* DiRienzo, col. 14, lines 53-57. As stated in DiRienzo, some diagnostic physicians generally experience about 25-30% downtime. *See id.* at col. 14, lines 41-48. Simultaneously, some medical facilities may generate more images than a local diagnostic staff is equipped to handle in a timely manner. Accordingly, the system and method disclosed by DiRienzo offers a “virtual marketplace” by which remote physicians may elect to offer diagnostic services for these excess images in exchange for a fee. *See id.* at col. 14, lines 21-41. Thus, by utilizing remote physicians, the system of DiRienzo reduces physician downtime and also improves the delivery time of diagnostic readings. Although the solution

offered by DiRienzo may be beneficial in the foregoing context, these problems and solutions are very different from those addressed by the present invention.

With the foregoing discussion in mind, Appellants reiterate once again that DiRienzo simply *does not* disclose the DCCS element recited by *each* of the presently pending independent claims. Indeed, this deficiency was *repeatedly* acknowledged by the Examiner in the Final Office Action. *See* Final Office Action mailed Oct. 19, 2006, pages 4-6, 8, 10-12, 17-22. In attempting to fill this deficiency, the Examiner stated:

DiRienzo *fails to explicitly teach the claimed [DCCS]* linked to the internal network.

However, DiRienzo teaches the transmission of data between the medical diagnostic facility and the CHC (e.g., the remote data provider) via a network requires the use of a network/communication interface, and thus obviates the step of providing a DCCS linked to a network of the medical diagnostic facility.

Id. at page 3. (Emphasis added). In other words, the Examiner, being unable to find an explicit teaching of a DCCS in DiRienzo or any other reference, has made a final desperate attempt to redefine the recited DCCS by stating that the mere teaching of a “network interface” *must* render this claimed subject matter obvious. In responding to the Examiner’s unfounded assertions, Appellants noted in the Appeal Brief that the Examiner’s statements are not only unsupported, but completely unreasonable interpretations of the teachings of DiRienzo and the recited claim language. *See* Appeal Brief, page 16. That is, the Examiner cannot rely on unsupported speculation in an attempt to fabricate a claimed element which the cited reference *simply does not disclose*.

In the Examiner’s reply to the arguments advanced in the Appeal Brief, the Examiner merely restated his earlier misguided assertions from the Final Office Action, but provided no additional remarks otherwise. *See generally*, Examiner’s Answer, pages 25-31. Rather, the Examiner attached a Panel Decision, Appeal No. 2004-0423 (hereinafter “Panel Decision”) for Application Serial No. 09/470,000 (hereinafter the ‘000 Application) mailed September 15,

2004, which is also assigned to the assignee of the present application. To summarize, the ‘000 Application discloses some subject matter which bears some similarity to the subject matter disclosed in the present application. In particular, the claims of both applications recite a “data control and communication system.” In the Panel Decision, the Board found the recited DCCS of the ‘000 Application rendered obvious in view DiRienzo. *See* Panel Decision, pages 5-6. In view of the Board’s findings with regard to Appeal No. 2004-0423, the Examiner appears to be suggesting that the reasons supporting this Panel Decision are equally applicable to the present application. Appellants strong emphasize that such an assumption is *clearly* improper.

Although both applications may generally recite a DCCS, the recited features with regard to the DCCS system are *clearly not identical* with respect to each application. For example, in the present application, each of the independent claims generally recites that a DCCS is (1) coupled to an internal network for receiving client data from clients, transmitting client data (e.g., to an RSP), and receiving addressed data and distributing the address data to client, and (2) that the DCCS is coupled to a internal network including a plurality of medical diagnostic imaging modalities. In contrast, the claims of the ‘000 Application merely describe the DCCS as being linked to the network of a medical facility, and being capable of transmitting data via more than one data communications medium. In other words, the DCCS recited by the present application is by no means identical or necessarily analogous to the DCCS recited by the ‘000 Application. According, Appellants submit that the Examiner’s reliance on this Panel Decision is not only blatantly improper, but has absolutely no bearing or relevance in this instant appeal. Therefore, because the Examiner has provided no additional discussion in reply to the Appeal Brief, Appellants reiterate that the teaching of a generic “network interface” in DiRienzo cannot obviate the recited DCCS.

Further, Appellants note that each of the independent claims further recites that a DCCS is coupled to network including a *plurality of medical diagnostic imaging modalities*. As discussed above, the DCCS is connected to various systems, which may include an HIS, RIS, PACS, and various medical diagnostic imaging modalities, such as an X-ray system, an ultrasound system, an MRI system, and a CT system, to name just a few. Through these

interconnections, the DCCS acts as a centralized communication point for managing all outgoing and incoming transmission to and from the various imaging modalities. However, Appellants note that DiRienzo also fails to disclose this feature. In contrast, DiRienzo *merely* states that the clearinghouse computer (CHC 200), which the Examiner has cited in the Final Office Action as being analogous with a remote service provider, is connected to a computer in a physician's office (e.g., graphics workstation 410). *See* DiRienzo, col. 19, lines 43-47; Fig. 3. In the Appeal Brief, Appellants noted that DiRienzo only addresses the acquisition of images from an imaging workstation in a healthcare facility, and by no means discloses a DCCS coupled to a *plurality of imaging modalities*. In other words, it appears that the Examiner has made the irrational and unreasonable leap that a graphics workstation 410 is analogous to an imaging modality *simply* because the graphics 410 is capable of transmitting diagnostic images to the CHC 200. Moreover, to the extent that DiRienzo does discuss imaging modalities, the cited reference merely states that various diagnostic instrumentalities may be used to produce various types of diagnostic images. *See* Final Office Action, page 3. While this may be true, DiRienzo makes absolutely no mention that the CHC is connected to a network having a *plurality of medical diagnostic imaging modalities*.

In reply to the arguments advanced in the Appeal Brief, the Examiner again merely restated his arguments from the Final Office Action, and attempted to emphasize that DiRienzo discloses that different modalities, such as X-Ray, EKG, EEG, MRI, CT, NM, PET, etc., may produce respective characteristic diagnostic images. *See* Examiner's Answer, page 26. Relying on these teachings, the Examiner stated that each of the computers (e.g., 410) in the physician's office could be a medical diagnostic imaging modality coupled to an internal network. *See id.* At best, this appears to be a weak attempt at asserting that DiRienzo *inherently* discloses a DCCS coupled to a plurality of imaging modalities.

It is well established case law that just because a certain thing *may* or *could* result from a given set of circumstances, such a possibility it itself is not sufficient for purposes of anticipation. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). Instead, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the

determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). However, Appellants note that there is absolutely no evidence that would support that the teachings of DiRienzo *necessarily* suggest a DCCS coupled to a plurality of imaging modalities. As noted above, the Examiner has not demonstrated that the computer 410 is *necessarily* an imaging modality, but rather admits that the computer *could* constitute an imaging modality. Appellants assert that this is merely an unfounded statement based on nothing more than pure speculation. That is, simply stating the truism that medical diagnostic imaging modalities produce medical images does not provide the necessary objective evidence required to support a *prima facie* case of obvious with regard to this particular claim feature, either explicitly, implicitly, or under any theory of inherency. As such, Appellants reiterate that the teachings of DiRienzo fail to disclose a *plurality of medical diagnostic imaging modalities* coupled to a DCCS via an internal network, as generally recited by the independent claims.

Additionally, Appellants submit that the Examiner has not established a *prima facie* case of obviousness with regard to the subject matter recited by dependent claims 10, 18, 26, 34, and 42. In particular, each of these claims generally recites that a DCCS may access operational parameters from the clients (e.g., plurality of imaging modalities). In rejecting these claims, the Examiner analogized the recited “operational parameters” with “diagnostic reports,” which are created by remote physicians after analyzing diagnostic images via the CHC 200, as disclosed by DiRienzo. Final Office Action, page 8. In responding to this assertion in the Appeal Brief, Appellants noted that “diagnostic reports” have absolutely nothing whatsoever to do with *operational parameters or data*. See Appeal Brief, pages 20-21. That is, a diagnostic report is simply a diagnosing physician’s opinion of what a diagnostic image shows. In contrast, *operational parameters*, as clearly stated in the specification, relate to data required for servicing, maintenance, analysis, or accounting related to the imaging modality. See Application, page 7, lines 6-9. Appellants submit that the two are simply not comparable.

Nevertheless, the Examiner, in replying to the arguments set forth in the Appeal Brief, again merely restated the exact same reasons set forth in the Final Office Action without

providing any further comments. Thus, for the reasons discussed in the Appeal Brief, Appellants emphasize that a physician's report detailing the diagnosis of a medical image is *clearly* not analogous to the recited *operational parameters*. Further, just because DiRienzo appears to store and transmit the physicians' diagnostic reports does *not* suggest or render obvious this recited claim element. Therefore, Appellants reiterate that DiRienzo does not disclose or render obvious dependent claims 10, 18, 26, 34, or 42.

In summary, Appellants reiterate that the Examiner has failed to show any predictability of success under DiRienzo. Therefore, for at least the reasons discussed above, Appellants respectfully submit to the Board that the Examiner has failed to establish a *prima facie* case of obviousness with regard to independent claims 1, 17, 32, 46, and 55, and that all claims depending therefrom are allowable over DiRienzo at least by virtue of dependency from an allowable base claim. Appellants further note that dependent claims 10, 18, 26, 34, and 42, would also be allowable over DiRienzo for the subject matter separately recited therein.

Respectfully submitted,

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